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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

March 2, 2000

SUBJECT: Draft Action Memorandum &
Request for Sediment Removal Support
12th Street Landfill/Dump Site

FROM: Michael Towle, OSC
Removal Response Section

TO: Michael Chezik, DOI
Peter Knight, NOAA
Chris Guy, USFWS
Bruce Pluta, EPA

Attached/enclosed is a draft of the Action Memorandum now in preparation and concurrence for a Removal Action at the 12th Street Landfill/Dump Site in Wilmington, Delaware. The Action Memorandum has been prepared considering input and information from trustee agencies to the OSC.

The Site is located along the bank of the Brandywine Creek. The near vertical Creek bank at the Site is comprised of highly contaminated soil and is now eroding into the Creek. The sediment of the adjacent tidal mudflat is contaminated in a limited area. Erosion has exposed drums buried in the contaminated soil.

The hazardous substance lead, and other inorganic substances such as arsenic, chromium, copper and zinc, are found at elevated concentrations at the Site. Toluene and phenol are also found. Lead is detected at significantly elevated concentrations and is, by far, the most pervasive contaminant. Lead in the soil is detected at concentrations up to 264,000 mg/kg, in the eroded Creek bank at concentrations up to 33,500 mg/kg, and in the tidal mudflat at concentrations up to 19,500 mg/kg. The sediment contamination levels exceed potentially protective levels (e.g., NOAA screening guidelines) by two orders of magnitude.

The extent of lead contaminated soil is now delineated by EPA at the conclusion of the Removal Site Evaluation. EPA, USFWS, NOAA, and DNREC involvement to date indicate that action is necessary to protect the aquatic environment. The attached Action Memorandum proposes actions and cleanup levels for the contaminated media.

EPA proposes to initiate a Removal Action to reduce sediment lead concentrations to average levels less than 91.3 mg/kg in the mudflat adjacent to the Site using a vacuum truck. The affected mudflat area is about 300 linear feet and about 20 feet wide. The contaminated bank and soil areas will be covered to minimize erosion into the Creek. The contaminated soil, bank, and mudflat area will be isolated from the Creek during the Removal Action to prevent migration of contaminants into the Creek The area will be revegetated to minimize erosion. The threats and proposed actions are summarized in the attached Action Memorandum.

Consistent with EPA procedures on implementing FY2000 Appropriations Report Language on sediment dredging, EPA will need to justify that removal of sediment is necessary to mitigate a substantial threat to the environment. To date, EPA has not received definitive correspondence from trustees regarding this issue, but has received verbal information supporting the need for action. This memo requests trustee support for removal of contaminated sediment in a limited area of the mudflat to mitigate a substantial threat to the aquatic environment. Your immediate reply is requested.

Any comment on the draft Action Memorandum must similarly be immediately received. Thank you for your timely assistance.

I may be reached at:

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
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DRAFT
3/9/96

SUBJECT: Request for Removal Action at the 12th Street Landfill/Dump Site Wilmington, Delaware

FROM: Michael Towle, On-Scene Coordinator
Removal Response Section (3HS31)

TO: Abraham Ferdas, Director
Hazardous Sites Cleanup Division (3HS00)

I. ISSUE

The purpose of this Action Memorandum is to request funding to initiate a Time-Critical Removal Action at the 12th Street Landfill/Dump Site located along the banks of the Brandywine Creek in Wilmington, Delaware. A Removal Site Assessment conducted pursuant to Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415, revealed ongoing releases of hazardous substances, primarily lead, from the 12th Street Landfill/Dump Site into the environment. These releases pose a threat to ecological receptors in the Brandywine Creek and a potential threat to human receptors. Based upon information obtained from the Removal Site Assessment, CERCLA funding is necessary to remove contaminated creek sediment, stabilize eroding soil, cover contaminated soil areas, and perform other activities as described herein in response to the release and threatened release of hazardous substances from the Site. CERCLA funding in the amount of $1,983,000, of which $ 1,743,000 are Extramural funds, is necessary to mitigate the threats identified in this Action Memorandum.

II. BACKGROUND AND SITE CONDITIONS

A. Site Description

The 12th Street Landfill/Dump Site (Site) consists of, among other things, an abandoned dump containing industrial materials. The Site is located immediately adjacent to the Brandywine Creek in Wilmington, Delaware, near the 12th Street ramp to I-495. The Site is situated on land bounded by an active railroad right-of-way, industrial activity, an interstate highway, and open land characterized by marsh vegetation. Currently, access to the Site is somewhat difficult due to an area of dense marsh vegetation which acts as a natural impediment to easy access; however, evidence of human trespass onto the Site does exist. The Site is located outside of downtown Wilmington, a populated area, but is

suggested in aerial photographs, then the contaminated soil volume estimate is increased to more than 30,000 cubic yards. The number of drums and other contaminated items in this soil is unknown.

The tidal mudflat is about 20 feet wide. An estimated 300 linear feet of the mudflat sediment contains elevated levels of lead which requires removal to protect ecological receptors. The depth of contaminated sediment is estimated to be 6 inches, resulting in an estimated volume of contaminated sediment of 111 cubic yards. About 550 feet of the Creek bank contains contaminated soil and debris.

C. National Priorities List Status

The 12th Street Landfill/Dump Site is not proposed for inclusion on the CERCLA National Priorities List (NPL). The OSC will forward analytical and other information to EPA Site Assessment personnel for further consideration. Removal actions at this Site will not impede any future remedial actions.

D. State and Local Authorities' Roles

The Site was brought to the attention of EPA by the Delaware Department of Natural Resources and Environmental Control (DNREC). DNREC has requested that EPA take the lead role at the Site. The Site is located on property owned or controlled by the Wilmington Economic Development Corporation (WEDCO) (see attached Enforcement Confidential Addendum). WEDCO and City of Wilmington representatives were advised of Removal Assessment activities and will be advised of any Removal Action performed on WEDCO's property.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

The OSC requested that the Agency for Toxic Substances and Disease Registry (ATSDR) assist with evaluation of the threats to human health posed by releases at and from the Site. Since the Site is bounded by a fenced industrial storage yard and marsh grasses which act as a natural impediment, ATSDR and the OSC concur that direct contact threats posed by the Site to human health are not currently significant. Access to the Site is, however, unrestricted. Although the Site may be utilized by trespassers for recreational purposes (e.g., fishing), these short-term potential exposures are not expected to currently result in significant threats posed by incidental ingestion of contaminated soil. A potential threat is posed to human receptors that may use the Site in the future for recreational or other purposes. The potential threat to humans is posed by incidental ingestion of contaminated soil in the future.

The OSC coordinated with the US Fish & Wildlife Service (FWS), National Oceanographic and Atmospheric Administration (NOAA), DNREC, and ATSDR representatives regarding potential threats posed to ecological receptors and then subsequently to human receptors through ingestion of aquatic organisms (i.e., food chain). Site sampling and analytical results indicate that the environment and habitat of ecological receptors (Creek sediment) is impacted by hazardous substances at levels significantly higher than background levels and benchmark risk levels established by NOAA and EPA.

developing the "Screening Guideline" levels discussed above. Lead may bioaccumulate in the exposed organisms which can result in lead poisoning and entrance to the food chain. The OSC has observed waterfowl (ducks) and fish which rely on the Site area for habitat and has also observed fishermen along the banks of the Site.

Exposure to lead and zinc by aquatic organisms may result in increased concentrations of lead in the blood of exposed organisms and may affect the growth, reproduction, and behavior or aquatic species. Lead may bioaccumulate in aquatic organisms posing a potential threat via the food chain to migratory birds and potentially to human receptors ingesting the aquatic organisms.

In the absence of cleanup activities, the Site poses a potential direct contact threat to human receptors (trespassers). Incidental ingestion of lead in the soil or sediment at the Site may result in increased blood lead levels. Lead is known to adversely affect the central nervous system. Exposure to toluene in exposed drum wastes may result in effects to the central nervous system of trespassers.

§ 300.415 (b)(2)(iii) "Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;"

Resinous materials in the drums found buried and/or partially exposed at the Site have released into the environment. Analysis of drum remains has identified lead, toluene, phenol, and 2-methylnapthalene. Lead, a hazardous substance, is found elevated in the soil indicating a release to the environment has occurred. Other organic substances in the drum wastes (e.g., toluene) release to the air and pose a potential threat to trespassers via inhalation pathways as erosion continues to expose drums. Toluene, a hazardous substance, is mildly toxic by inhalation resulting in effects to the central nervous system of exposed individuals. Continued erosion of Site soil and degradation of exposed drums pose a continued threat of release of hazardous substances and 2-methylnapthalene.

§ 300.415(b)(2)(v) "Weather conditions that may cause hazardous substances to migrate or be released;"

Rainfall events will exacerbate the release of hazardous substances from the Site into the Brandywine Creek. Rainfall will result in the migration of contaminated soil particles into the Creek through existing drainage channels and erosion pathways. Erosion of the soil from the Site will continue to expose drums and contaminated soil.

§ 300.415 (b)(2)(vii) "The availability of other appropriate federal or state response mechanisms to respond to the release;"

DNREC has requested that EPA conduct removal actions to ensure that actions are conducted in a timely manner.

* Regrade remaining contaminated soil in a manner that promotes Site drainage to E&S Control facilities, minimizes erosion of the Creek bank, and facilitates construction of a cover for contaminated soil.

* Install a cover on the Creek bank to prevent erosion of contaminated soil into Brandywine Creek.

* Install a cover, which minimizes erosion of contaminated soil from the Site and facilitates drainage into E&S control facilities, on the remaining contaminated soil which exceeds an average lead concentration of 400 mg/kg.[1]

* Implement permanent E&S Control facilities, including suitable vegetative cover.

Disposal, Demobilization, and Post Removal Controls

* Dispose of hazardous substances, excavated or otherwise segregated for disposal during the above-described activities, off-Site in accordance with 40 C.F.R. § 300.440.

* Remove access and Site security measures not essential to maintenance of Site cover and restore ground disturbed by installation of access and Site security measures.

* Coordinate with State and Local authorities on removal and post-removal activities and conditions intended to, among other things, ensure the continued integrity of the covers and controls installed during the Removal Action.

* Demobilize personnel and equipment.

B. Contribution To Remedial Performance

The proposed Removal Action is not expected to be inconsistent with or hinder any Remedial Actions at the Site; however, no such Remedial activities are currently expected.

C. Compliance With ARARs

The proposed Removal Action will comply with applicable or relevant and appropriate environmental and health requirements (ARARs), to the extent practicable considering the exigencies of

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[1] EPA's "Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities" (OSWER Directive 9355.4-12 (July 14, 1994)) recognizes 400 ppm lead as the "screening level" for lead in residential soils. This is the soil lead level below which action is generally not required in residential settings. The OSC believes it appropriate to use this conservative level in this non-residential setting due to the sensitivity of the setting along the Brandywine Creek.

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues pertaining to the 12th Street Landfill/Dump Site.

VIII. ENFORCEMENT STATUS

The OSC has provided the EPA Removal Enforcement Section with information available to pursue any and all enforcement actions pertaining to the 12th Street Landfill Site. See attached Confidential Enforcement Addendum.

IX. RECOMMENDATION

Because conditions at the 12th Street Landfill/Dump Site meet the criteria for a Removal Action as set forth in Section 300.415 of the NCP, 40 C.F.R. § 300.415, I recommend your approval of funding of the Removal Action described herein. Your approval will establish an estimated Total Project Ceiling of $1,983,000, of which $1,743,000 are Extramural Costs. You may indicate your approval or disapproval by signing below.

Approved _____ Date _____

Disapproved _____ Date _____

ATTACHMENT: Confidential Enforcement Addendum